

### **DETAILED ACTION**

Claims 1, 3, 4 and 6-27 are currently pending in the instant application. Claims 1,3 and 23-25 are rejected. Claims 4, 26 and 27 are objected.

This application contains claims 6-22 drawn to an invention nonelected with traverse in the reply filed on 11 October 2006. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

### ***Response to Amendment and Arguments***

Applicants' arguments filed 16 December 2009 have been fully considered and entered into the instant application.

Applicants argue that the compound dimethyldifluoromethanamine is not claimed in instant claim 1 and that the prior art reference does not disclose the compounds recited in claim 1. This argument is not persuasive as while the compound of the '062 reference is excluded from the scope of the pending claims, the examiner has not rejected the claims as being anticipated, but has rejected the claims under 35 USC 103. The '062 disclosure still renders the instant claims obvious as the '062 reference provides a compound which differs only by a homologous series.

Applicants' argue that there is no motivation to prepare the compounds of instant claim 1 as the prior art does not infer that other "similar" compounds would be useful in the treatment of cellulose filter paper. This argument is not persuasive as according to MPEP 2144.08, compounds which are homologs are generally of sufficiently close structural similarity that there is a presumed expectation that such compounds possess

Art Unit: 1626

similar properties. Homology involves closes structural similarity which must be considered with all other relevant facts in determining the issue of obviousness.

Applicants' argue that the '062 patent does not teach or suggest fluorinating agents comprising the compounds of formula (I). This argument is not persuasive as a recitation of the intended use, i.e. as a fluorinating agent, must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Additionally, the recitation "fluorinating agent" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the intended use of a structure and where the body of the claim does not depnd on the preamble for completeness, but, instead, the structural limitations are able to stand alone.

Lastly, Applicants' argue that the '062 patent discloses that fluorine-containing compounds are "difficult to obtain" and as such one skilled in the art would not find any motivation to modify the compounds of the '062 reference. This argument is not persuasive because difficulty does not equate to undue experimentation. Additionally, the motivation to modify the compound of the '062 reference is to obtain additional homologs useful as a treating agent in cellulose products.

The Declaration of Dr. Wolfgang Ebenback under 37 CFR 1.132 filed 16 December 2010 is insufficient to overcome the rejection of claims 1, 3 and 23-25 based upon 35 USC 103(a) as set forth in the last Office action because: 1) Whether the

Art Unit: 1626

unexpected results are the result of unexpectedly improved results or a property not taught by the prior art, the "objective evidence of nonobviousness must be commensurate in scope with the claims which the evidence is offered to support." In other words, the showing of unexpected results must be reviewed to see if the results occur over the entire claimed range. Applicants' have only provided only compared one compound of the claimed invention which is not commensurate in scope with the claimed invention. Additionally, one of ordinary skill in the art would not be able to determine a trend in the exemplified data as only one compound has been compared to the prior art. It is suggested that applicant also provide evidence of unexpected results for the claimed compounds in order for the showing to be commensurate in scope with the claimed invention. For example, applicant could provide evidence of unexpected results of diastereomeric excess for compounds, such as 6a and 7a, page 19 of the specification, which are within the claimed invention. This data could provide a trend in the exemplified data which could show that the results occur over the entire claimed range and are commensurate in scope with the claimed invention.

The 35 USC 103(a) rejection is therefore maintained for claims 1, 3 and 23-25.

The Declaration of Dr. Wolfgang Ebenback under 37 CFR 1.132 filed 16 December 2010 is sufficient to overcome the rejection of claims 4, 26 and 27 based upon 35 USC 103(a) as set forth in the last Office action because: Applicant has provided unexpected results for the compound 1,1-difluoro-N,N-2,2-tetramethyl-1-propanamine compared to the prior art 1,1-difluoromethyl-N,N-dimethylamine. The unexpected results provided in the declaration are that the compound , 1-difluoro-N,N-

Art Unit: 1626

2,2-tetramethyl-1-propanamine provides approximately two times higher diastereomeric excess than 1,1-difluoromethyl-N,N-dimethylamine when used as a fluorinating reagent.

The 35 USC 103(a) rejection is therefore withdrawn for claims 4, 26 and 27.

### ***Claim Objections***

Claims 4, 26 and 27 appear allowable over the prior art of record, however, these claims contain minor informalities.

Claims 4, 26 and 27 are objected to because of the following informalities: Specifically, for independent claim 4, it is suggested that applicant delete the phrase "of formula 1" as claim 4 is an independent claim and "formula 1" is not the formula of the invention which is formula (I). For claims 26 and 27 it is suggested that applicant amend "comprising" to "which is" as the compound is 1,1-difluoro-N,N-2,2-tetramethyl-1-propanamine.

Appropriate correction is suggested.

### ***Maintained Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

Art Unit: 1626

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3, and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 3,213,062. It is noted that the fluorinating agent claims 23 and 25 only require the compound of the formula (I) to be present in the agent and the claim is therefore included in the 35 USC 103(a) rejection as the only claim limitation to be met is the compound of formula (I).

***Determining the scope and contents of the prior art***

US Patent No. 3,213,062 discloses the preparation of dimethyl-difluoromethamine in Example XVIII, columns 11 and 12. While dimethyl-difluoromethylamine is excluded from the claimed invention, US Patent No. 3,213,062 also discloses that dimethyldifluoromethylamine is valuable as a treating agent for cellulose products, see column 14.

***Ascertaining the differences between the prior art and the claims at issue***

The difference between the prior art and the claims at issue is that the prior art of US Patent No. 3,213,062 prepares a specific compound that is excluded from the claimed invention.

***Resolving the level or ordinary skill in the pertinent art***

However, minus a showing of unobvious results, it would have been obvious to one of ordinary skill at the time of the invention to prepare compounds of the formula (I) wherein R1 is hydrogen or C2-C12alkyl or C4-12 alkyl and R2 and R3 are each C1-C12 alkyl when faced with the prior art of US Patent No. 3,213,062 which discloses dimethyldifluoromethamine and also discloses that dimethyldifluoromethamine is useful as a treating agent. The motivation to prepare compounds of the formula (I) as instantly claimed would be to prepare additional treating agents for cellulose products. To those skilled in chemical art, one homologue is not such an advance over adjacent member of series as requires invention because chemists knowing properties of one member of series would in general know what to expect in adjacent members. In re Henze, 85 USPQ 261 (1950). The instant claimed compounds would have been obvious because one skilled in the art would have been motivated to prepare homologs of the compounds taught in the reference with the expectation of obtaining compounds which could be used as treating agents. Therefore, the instant claimed compounds would have been suggested to one skilled in the art. The motivation to make the claimed compounds derives from the expectation that structurally similar compounds would possess similar activity (i.e., treating agents which provide water repellent properties, harder surface and/or wet strength).

### **Conclusion**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Rebecca L. Anderson whose telephone number is (571) 272-0696. Mrs. Anderson can normally be reached Monday through Friday from 6:00am until 2:30pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Mr. Joseph K. McKane, can be reached at (571) 272-0699.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1626

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*/Rebecca Anderson/  
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